

Textiles: Sources & Origins

Fibres, Yarns and Fabric

Textiles are made from fibres that are spun into yarn. The yarn is then woven or knitted into fabric. Fibres can be natural (from animal or plant sources) or synthetic (man-made from chemical sources).

Fibres

Natural
(e.g. cotton)



Synthetic
(e.g. polyester)



Yarns

**Spinning/
Twisting**



**Spinning/
Twisting**



Fabric

**Weaving/
Knitting**



**Weaving/
Knitting**



Fibres from **vegetable sources** are natural fibres.

Cotton



Cotton is a type of flowering plant found in tropical and subtropical parts of the world.

Cotton fibres grow on the ripe seedpods (**bolls**) of the plant. Once harvested, they must be separated from organic matter and cleaned before processing.

Fibre type: Staple fibre

Linen



Linen is made from the cellulose fibres found in the flax plant.

The flax is harvested 100 days after planting, and the stem is left to rot so the fibres can be retrieved. The stem is then beaten to loosen and separate the fibres before they are sorted and spun into yarn.

Fibre type: Staple fibre

There are two types of fibres: **short staple fibres** and **long filaments**. Unlike staple fibres, filaments do not necessarily have to be spun; they can simply be twisted. Staple fibres have a much fluffier, hairier texture than filaments, which are much smoother.

Natural Fibres

Fibres from **animal sources** are natural fibres.

Wool



Wool comes mainly from sheep, but it can also come from other hairy mammals such as goats, rabbits and camels.

The animal is sheared, and the wool is chemically cleaned and combed in a process known as **carding**.

Fibre type: Staple fibre

Silk



Silk is harvested in one continuous thread from the cocoon of the silkworm.

The cocoon is placed in boiling water to soften the sericin gum, which binds the filaments together. It is then unwound in a process known as **reeling**.

Fibre type: Filament

Man-Made Fibres

Synthetic fibres are man-made fibres that have been created through chemical synthesis. They are polymers, or long repeating chains of molecules called monomers.



The fibres are filament fibres, so they do not necessarily have to be spun into yarn.

Examples of man-made fibres include:

Polyester

Nylon

Viscose

Lycra®

Regenerated fibres come from natural sources (e.g. cellulose) that have been **chemically treated**.

